

REMARKS

This paper is submitted in reply to the Office Action dated May 3, 2004, within the three-month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, the drawings were objected to based upon an inconsistency in the label of Fig. 10, item 302, and the specification was objected to based upon minor informalities. In addition, claim 32 was objected to also based upon a minor informality. Furthermore, 1, 18, 31, 33, 57, and 93 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; claims 1-11, 13-16, 18-24, 26-29, and 31-32 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,192,354 to Bigus et al.; claims 12 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bigus et al. in view of Kopelman "Accelerated engineering: the 3 secrets to just-in-time product development (JITPD)" (27-29 Sept. 1994) (hereinafter "Kopelman"); and claims 17, 30, 33, 57, and 93 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bigus et al. in view of Stidolph "Evolutionary Design of Complex Software (EDCS) Demonstration Days 1999" (January 2000) (hereinafter "Stidolph").

Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained. Applicants have amended the specification, and claims 31-32, and Applicants respectfully submit that no new matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed.

As an initial matter, Applicants wish to thank the Examiner for his careful review of the application and his suggestions regarding the informalities in the specification, the drawings, and the claims.

Page 15 of 26
Serial No. 104021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&E IBM/201
K:\ibm\201\Amendment and Response to 5-3-04 OA.wpd

Drawing Objections

First in the subject Office Action, the drawings were objected to based upon an inconsistency in the label for item 302 in Fig. 10 with the specification at page 28, lines 18 and 28 and page 29, line 5. While Applicants submit that the specification is consistent with the drawings, Applicants have nonetheless amended the specification at page 28, line 28 and page 29, line 5 for greater consistency. Withdrawal of the drawing objections are therefore respectfully requested.

Objections to the Specification

With regard to the specification, the Examiner first indicated that XML and RETE are trademarks. Applicants, however, are not aware that either term is a trademark. If the Examiner can provide any evidence that either term is a trademark, Applicants would appreciate the Examiner providing such evidence in the Examiner's next communication. Otherwise, withdrawal of this objection is requested.

Additionally with regard to the specification, the Examiner suggested that the word "intelligent" be inserted between "support" and "agent" at page 11, line 16 and page 13, line 4, and between the words "product" and "agent" at page 11, line 17. Furthermore, the Examiner suggested that the words "intelligent agent" should be inserted between the words "support" and "server" and between the words "product" and "servers" at page 11, line 29. The Examiner further suggested that the words "cross-customer" should precede "knowledge base" at page 13, line 2; that ", respectively" should follow 92 at page 17, line 17;¹ and that the numeral "18" should be added after the word "server" at page 18, line 18. Accordingly, Applicants have amended the specification as outlined above to insert the language suggested by the Examiner. In addition, the Examiner will note that

¹ Applicants note that "92" does not appear at page 17, line 17; however "82" does. Applicants assume that the Examiner meant "82" and have therefore amended the specification to include ", respectively" following "82".

Applicants have inserted the words "intelligent agent" between the words "product" and "support" and changed the word "server" to "servers" at page 11, line 25 for consistency with the description of item 18. Applicants respectfully submit that all the informalities indicated by the Examiner have been addressed, and withdrawal of the objections is respectfully requested.

Objections to the Claims

Next in the subject Office Action, claim 32 was rejected based upon an informality. The Examiner suggested that the word "or" be used in place of the word "and" in order to make the claim more readable. Applicants have amended the claim as the Examiner suggested and required. Withdrawal of the objection to claim 32 is therefore respectfully requested.

Statutory Subject Matter Rejections

Next in the subject Office Action, claims 1, 18, 31, 33, 57 and 93 were rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter. Applicants respectfully traverse the Examiner's rejections.

In particular, the Examiner argues that the language of the claims raises a question as to whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful and tangible result.

However, Applicants have found that, in each rejected claim, certain elements are recited that render these claims statutory. For example, with respect to claim 1, the claim recites "an apparatus," one the statutory classes. In addition, the claim recites "a product support program resident on a product support computer," which by itself renders the claim statutory. Furthermore, the claim recites "intelligent agents," which are well understood in the art, and explicitly defined in the specification (e.g., at page 3, lines 19-

Page 17 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&E IBM/201
K:\ibm\201\Amendment and Response to 5-3-04 OA.wpd

24) as being functional computer programs, i.e., software. Furthermore, the concept of a "product support operation" for a "computer-related product" is quite clearly a technological art, and not merely an abstract idea. Applicants submit that these specific elements are specifically directed to the technological arts, and are in fact tied to a particular environment or machine, thus rendering claim 1 statutory.

Likewise, claim 18 specifically recites "executing a second product support intelligent agent on a second agent platform" that is resident on a "product support computer." Furthermore, the claim recites that the execution of the agent results in the performance of a product support operation. These specific elements indicate the claim is tied to a particular technological art, as well as to a particular environment or machine, and thus results in a practical application of the invention.

Next, with regard to independent claim 31, this claim recites a number of programs borne on a signal bearing medium. In addition, Applicants have amended claim 31 to clarify that the signal bearing medium is "computer-readable," and that the signal bearing medium is "at least one." The presence of a computer-readable signal bearing medium by itself renders claim 31 statutory. It should be noted, however, that the additional recitations of intelligent agents, the performance of product support operations in connection with computer-related products, and the configuration of a product support program to reside on a product support computer all represent practical applications to the technological arts, as discussed above in connection with claims 1 and 18.

Next, with respect to claim 33, this claim similarly recites the identification of an undesirable operational condition associated with a computer-related product, as well as the creation of a product support intelligent agent. These elements are not merely abstract ideas, but are specific applications to a technological art, and in a specific technological environment. Furthermore, Applicants respectfully decline to make the amendments suggested by the Examiner in the subject Office Action, as there is no requirement in claim 33 that all recited steps be computer-implemented. It is Applicants understanding

Page 18 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
W1&E IBM/201
K:\bm\201\Amendment and Response to 3-3-04 OA.wpd

that the statutory nature of a claim does not require that each and every step be implemented with a computer, and as such, Applicants do not believe that the Examiner's suggested amendment is necessary to render the claim statutory.

Finally, with respect to claims 57 and 93, claim 57 recites in part "analyzing the operational data from the plurality of customer computers using at least one intelligent agent," while claim 93 recites the execution of first and second intelligent agents to perform first and second tasks associated with remedying an undesirable operational condition associated with a customer computer. In each of these elements, intelligent agent computer programs are used to perform specific tasks, thus tying the claim to a specific technological art, environment and machine. Applicants respectfully submit that neither claim is directed merely to an abstract idea without any practical application.

As all of the aforementioned claims recite subject matter that is statutory within the bounds of 35 U.S.C. § 101, Applicants respectfully submit that each of claims 1, 18, 31, 33, 57, and 93 is statutory. Reconsideration and withdrawal of the §101 rejections are therefore respectfully requested.

Art-Based Rejections

Now turning to the art-based rejections, and more specifically to the rejection of independent claim 1, this claim generally recites an apparatus that includes first and second product support intelligent agents that are configured to perform product support operations in connection with a computer-related product. A first agent platform is configured to execute on a customer computer that utilizes the computer-related product, and a product support program is resident on a product support computer used in providing product support for the computer-related product. The product support program includes a second agent platform, and is configured to dispatch the first product support intelligent agent to the customer computer for execution by the first agent

Page 19 of 25
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WTL&E IBM/201
K:\bmr\201\Amendment and Response to 5-3-04 OA.wpd

platform, and to initiate execution of the second product support intelligent agent by the second agent platform.

In rejecting claim 1, the Examiner relies on Bigus et al. (U.S. Patent No. 6,192,354), which the Examiner will note shares a common inventor with the instant application. Bigus et al. discloses an apparatus and method for optimizing the performance of computer tasks using multiple intelligent agents having varied degrees of domain knowledge, and while not so limited, discloses a number of applications focused principally in the area of conducting negotiations in electronic commerce applications.

Bigus et al. also discloses the dispatch of intelligent agents between computer systems. However, the fact that Bigus et al discloses the dispatch of intelligent agents to different computers is not particularly relevant to claim 1, given that the claim is not merely directed to the dispatch of agents to remote environments.

Instead, claim 1 is specifically directed to the dispatch of a first product support intelligent agent to a customer computer, and the execution of a second product support intelligent agent on a product support computer for the explicit purpose of providing product support for a computer-related product utilized by the customer computer.

Bigus et al. does not specifically mention the performance of product support operations by product support intelligent agents, or the specific execution and dispatch of product support intelligent agents respectively on a product support computer and a customer computer. Certainly, the claims of Bigus et al. may very well cover product support applications; however, the fact that Bigus et al. may have applicability in such applications is irrelevant to the rejection of claim 1, as there must be some explicit teaching within the four corners of Bigus et al. of each and every limitation of claim 1. The cited passages at column 2, lines 59-65; column 8, lines 27-34; column 10, lines 12-35; column 10, lines 49-59; and Figs. 5-7, in particular, are completely silent with respect to any product support-related application. The Examiner has therefore failed to establish

Page 20 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&E IBM/201
K:\brm\201\Amendment and Response to 5-3-04 OA.wpd

anticipation of each and every feature of claim 1. The rejection of claim 1 under 35 U.S.C. § 102 must therefore be withdrawn.

Moreover, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case for obviousness of claim 1 in view of Bigus et al. As the Examiner is no doubt aware, it is the burden of the Examiner to present objective evidence that one of ordinary skill in the art would be motivated to modify Bigus et al. to practice the various elements of claim 1. The Examiner has not done so in this case, and as a result, a *prima facie* case of obviousness has not been met.

Claim 1 is directed to the use of cooperative product support intelligent agents for the specific purpose of performing product support operations in connection with a computer-related product. As discussed, for example, at page 2 of the specification, conventional product support solutions have traditionally been limited to on-line access to product support information, software patches, drivers, updates, etc., as well as on-line communities to assist users in obtaining answers to questions they may have about a problem they are experiencing with a computer-related product. As also noted at pages 3 and 4 of the specification, intelligent agents have had limited use in connection with automating the process of updating software. Nothing in the prior art, however, suggests a product support program, resident on a product support computer, which is capable of both dispatching a product support intelligent agent to a customer computer that utilizes a computer-related product, and initiate execution of another product support intelligent agent on the product support computer. This specific combination of features not being shown in the prior art, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to modify Bigus et al. to practice the specific combination of features recited in claim 1. Accordingly, Applicants respectfully submit that claim 1 is both novel and non-obvious over Bigus et al. and the other prior art of record. Reconsideration and allowance of claim 1, as well as of claims 2-17 which depend therefrom, are therefore respectfully requested.

Page 21 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&F IBM/201
K:\bmi201\Amendment and Response to 3-3-04 OA.wpd

Next, with respect to independent claims 18 and 31, as with claim 1, these claims recite in part the concept of first and second product support intelligent agents, one of which being dispatched from a product support computer to a customer computer to perform a product support operation associated with a computer-related product, and the other being executed on the product support computer to perform another product support operation associated with the computer-related product. As noted above with respect to claim 1, Bigus et al. does not disclose each and every limitation of these claims, most notably the use of intelligent agents in the specifically-claimed manner to perform product support operations associated with a computer-related product. As such, the Examiner has failed to establish anticipation of these claims, and the rejections must be withdrawn. Furthermore, the Examiner has provided no evidence of any motivation in the art to modify Bigus et al. to practice the features recited in these claims. Accordingly, Applicants respectfully submit that claims 18 and 31 are novel and non-obvious over Bigus et al. and the other prior art of record. Reconsideration and allowance of these claims, as well as of claims 19-30 and 32 which depend therefrom, are therefore respectfully requested.

Next, with respect to independent claim 33, this claim recites in part the collection of operational data from a plurality of customer computers that utilize a computer-related product during the operation of the plurality of customer computers, the identification of an undesirable operational condition associated with the computer-related product from the collected operational data, the creation of a product support intelligent agent configured to remedy the undesirable operational condition, and the distribution of the product support intelligent agent to at least first and second customer computers from the plurality of customer computers to remedy the undesirable operational condition in the first and second customer computers.

In rejecting claim 33, the Examiner relies on Bigus et al. and Stidolph. As noted above, Bigus et al. is not explicitly directed to product support. Moreover, it should be

Page 22 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket: ROC920010146US1
WH&E IBM/201
K:\ibm\201\Amendment and Response to 5-3-04 OA.wpd

noted that the cited passage in Stidolph, directed to distributed software engineering, similarly does not appear to be directed to providing product support for a computer-related product. Indeed, it appears from the citations of Bigus et al. and Stidolph that the Examiner is simply reading the concept of product support entirely out of the claim, and attempting to find similar underlying functionality such as distributing agents, collecting data, etc., without showing the application of such functionality in connection with providing product support. Reading out the concept of providing product support for a computer-related product, however, completely disregards one of the principal aspects of the claim. The principal focus of the instant application is upon improving and automating the provision of product support to customers that utilize computer-related products. Neither reference cited by the Examiner is even directed to this specific aspect of Applicants' claimed invention. As such, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to modify Bigus et al. to practice the features recited in claim 33 upon a reading of either reference. It appears likely that the Examiner has simply attempted to find corresponding underlying functionality in the prior art and assemble disparate teachings to find correspondence in each individual step recited in the claim. Without establishing a suitable motivation for combining the recited steps in the particular manner recited in claim 33, however, such analysis necessarily relies on hindsight, and thus is insufficient to establish a *prima facie* case of obviousness as to claim 33. Reconsideration and allowance of claim 33 are therefore respectfully requested.

Next, with respect to independent claim 57, as with claim 33, this claim recites the collection of operational data from a plurality of customer computers, as well as the identification of an undesirable operational condition associated with a computer-related product. Claim 57 also recites the analysis of the operational data from the plurality of customer computers using at least one intelligent agent.

Page 23 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&E IBM/201
K:\ibm\201\Amendment and Response to 5-3-04 OA.wpd

In rejecting claim 57, the Examiner again relies on the combination of Bigus et al. and Stidolph. The Examiner first admits that Bigus et al. does not disclose the analysis of the operational data from the plurality of customer computers using an intelligent agent. Instead, the Examiner relies on Stidolph, and in particular, the passage at page 99 that reads "Aladdin is a tool for analyzing inter-component dependencies in software architectures" to allegedly disclose this feature.

The Examiner's rejection of claim 57 is deficient on a number of accounts. First, the cited passage in Stidolph does not even disclose the analysis of operational data from a plurality of computers, much less the performance of such analysis specifically using an intelligent agent. Furthermore, as discussed above in connection with claim 33, neither Bigus et al. nor Stidolph appears to be specifically directed to providing product support, and as a result, the Examiner's reliance on these references to construct a rejection of claim 57 is speculative at best. As with claim 33, the Examiner has taken disparate teachings from the two references, and has essentially utilized claim 57 as a blueprint for the rejection. The Examiner's recitation of motivation moreover does not even address how one of ordinary skill in the art would be motivated to modify Bigus et al. to perform the recited functions for the specific purpose of providing product support for computer-related products. As such, the Examiner's motivation is insufficient to establish a *prima facie* case of obviousness, and the rejection of claim 57 should be withdrawn.

Reconsideration and allowance of the claim are therefore respectfully requested.

Next, with respect to independent claim 93, this claim recites in part a method of providing product support for a computer-related product that includes the execution of first and second intelligent agents to respectively perform first and second tasks associated with remedying an undesirable operational condition associated with a customer computer that utilizes the computer-related product. The claim additionally recites that the first intelligent agent is provided by a first vendor that supplies a first component associated with the computer-related product, while the second intelligent

Page 24 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WHSE IBM/201
K:\bm\201\Amendment and Response to 3-3-04 OA.wpd

agent is provided by a second vendor that supplies a second component associated with the computer-related product.

As such, claim 93 recites an environment where multiple intelligent agents cooperatively operate to address an undesirable operational condition, where the intelligent agents are provided by different vendors that supply different components associated with the same computer-related product.

The Examiner admits that Bigus et al. does not teach the use of intelligent agents provided by different vendors, and relies instead on page 108 of Stidolph, specifically the passage detailing WebDAV. The cited passage, however, merely references the use of a standard protocol to provide the collaborative use of distributed files. How this specific disclosure in Stidolph would motivate one of ordinary skill in the art to modify Bigus et al. to utilize intelligent agents provided by different vendors that provide different components associated with a computer-related product, and additionally for the purpose of solving a common undesirable operational condition, is entirely unclear to Applicants. The cited passage in Stidolph, in fact is entirely silent with respect to any collaboration or interaction between multiple intelligent agents provided by different vendors. Applicants respectfully submit that the Examiner is utilizing hindsight in formulating the rejection, as Applicants can find no specific motivation in either reference, or elsewhere in the prior art, of the desirability of executing multiple intelligent agents to perform multiple tasks associated with remedying an undesirable operational condition associated with a computer-related product, where the intelligent agents are provided by different vendors that supply different components associated with the product. Absent any such motivation, the rejection cannot stand. Applicants therefore respectfully request reconsideration and allowance of claim 93.

As a final matter, while Applicants traverse the Examiner's rejections of the dependent claims based upon the aforementioned independent claims, Applicants nonetheless note that a number of the dependent claims are additionally patentable in

Page 25 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WTH&E IBM/201
K:\ibm\201\Amendment and Response to 5-3-04 OA.wpd

view of further features recited in such claims. While the bulk of these claims will not be addressed in the interest of prosecutorial economy, Applicants note that the rejections of a number of the claims are entirely conclusory in nature, and rely on passages in the cited references that have very little relevance to the features recited in these claims, e.g., the recitation of the various types of product support operations (claims 6 and 20), the recitation of the various operational data that may be collected (claims 7 and 21), the dispatch of a remedy intelligent agent to remedy an undesirable operational condition (claims 8 and 22), and a cross-customer knowledge base including operational data associated with a plurality of customers (claims 15 and 28). Reconsideration and allowance of these aforementioned claims for the additional reasons cited herein are therefore respectfully requested.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

3 AUG 2004

Date

Respectfully submitted,



Scott A. Stinebruner
Reg. No. 38,323
WOOD, HERRON & EVANS, L.L.P.
2700 Carew Tower
441 Vine Street
Cincinnati, Ohio 45202
Telephone: (513) 241-2324
Facsimile: (513) 241-6234

Page 26 of 26
Serial No. 10/021,203
Amendment and Response dated August 3, 2004
Reply to Office Action of May 3, 2004
IBM Docket ROC920010146US1
WH&E IBM/201
K:\IBM\201\Amendment and Response to 5-3-04 OA.wpd